



Design of a targeted NGS panel for evaluation of breast cancer genomic lesions in cfDNA

A post-doc fellowship is now opening at the Department of Cellular, Computational and Integrative Biology CIBIO, University of Trento (bcglab.cibio.unitn.it). The project will be carried out at the Laboratory of Bioinformatics and Computational Genomics, headed by Dr. Alessandro Romanel. The fellowship is funded by the *Ministero Della Salute Bando Ricerca Finalizzata 2018*.

The project: Breast cancer (BC) is the most common cancer and the leading cause of cancer death among women worldwide. Liquid biopsy has potential to be a powerful tool in the non-invasive monitoring of disease status in metastatic BC patients, enabling the prediction of prognosis and informing treatment decisions. The most effective liquid biopsy approaches include evaluation of circulating cfDNA in cancer patients by deep-targeted gene panel sequencing. The post-doc will design a new NGS targeted panel and apply/design sensitive and precise computational approaches to evaluate the genomic status of BC recurrently altered (SNVs, SCNAs) genes in cfDNA samples. The panel will be applied to evaluate cfDNA samples of a clinical cohort of metastatic BC patients.

The candidate: We are seeking highly motivated and enthusiastic candidates, willing to challenge an innovative project by adopting a pro-active attitude. The candidate is requested to have strong quantitative background and strong experience in the analysis of (targeted) re-sequencing NGS data (WGS, WES and TS) in the context of cancer. The candidate should have a strong interest in interdisciplinary collaboration. Given the international framework, the candidate should also have good communication skills, and a team-oriented working attitude.

Qualifications

- A high level of motivation and interest
- PhD in Bioinformatics, Computational Biology, Computer Science or in a related field
- Quantitative background
- Strong computational skills in the analysis of NGS data and expertise in languages for statistics and data analysis (R, Python) and (a plus) programming languages (C, C++, Java)
- Knowledge in the fields of genomics and cancer genomics
- Excellent communication skills and good team spirit with the ability to solve problems independently

The environment: The main focus of the Laboratory of Bioinformatics and Computational Genomics is the development of novel approaches to understand the biological mechanisms that underlie cancer genesis, cancer evolution and cancer treatment resistance. The laboratory is located within the international and vibrant context of the Department of Cellular, Computational and Integrative Biology (CIBIO) in Trento, Italy. Postdoctoral researchers joining the lab will gain access to the advanced research training and career development program. CIBIO offers the possibility to work in a young, highly dynamic and stimulating research environment thanks to a streamlined organization, which can support researchers to readily adapt to new scientific challenges through cutting-edge research infrastructures. At CIBIO, research goals are pursued in the frame of an integrative view of basic biological processes and of their derangement in disease, whereby basic science co-exists with biomedical oriented translational approaches.

Qualified and interested candidates should submit their application including a CV, a motivation letter describing how her/his background would best fit this position, and the contact information of at least two referees. Please send all documents to Dr. Alessandro Romanel (alessandro.romanel@unitn.it). This position is available for one year (and renewable for a second year) starting from early 2020.